APPLICATION FOR UNITED STATES LETTERS PATENT

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for a

BUILDING BLOCK PLAY SYSTEM

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BUILDING BLOCK PLAY SYSTEM

[0001] This application claims the benefit of U.S. Provisional Application No. 60/446,566, filed February 12, 2003, which is herein incorporated by reference in its entirety.

BACKGROUND

Field of the Invention

[0002] The present invention relates generally to building blocks and to children's fantasy role-playing and, more particularly, to modular building panels and building block play systems incorporating the panels, which enable the building of life-size play structures.

Background of the Invention

[0003] There is a need for children's play structures that do not require adult assembly and that can be easily built by children. There is also a need for such play structures to accommodate a variety of configurations, so that a child can build and reconfigure a structure according to the child's individual preferences. The components of the play structures should preferably be lightweight for handling by children and should be conducive to efficient manufacture.

BRIEF SUMMARY OF THE INVENTION

[0004] The present invention provides a building block play system that enables children to easily build life-size play structures. The system is also modular so that a

child can conveniently assemble and disassemble the components into various configurations of play structures.

[0005] A fundamental component of the system is a modular panel that has at least one row of projecting pegs (also referred to as prongs, posts, or studs) on its top and means for cooperating with projecting pegs on its bottom. In a preferred embodiment, the top projecting pegs and the bottom means for cooperating with pegs are arranged in two rows. The top pegs are preferably arranged in two rows with eight or ten pegs each. The bottom means for cooperating with pegs are also preferably arranged in two rows with eight or ten means for cooperating with pegs each. Panels can be stacked by removably attaching the top pegs of a bottom panel to the bottom means for cooperating with pegs of a top panel.

[0006] In one embodiment of the modular panel, the bottom means for cooperating with pegs is arranged in two tiers. The first tier includes a center portion of the rows and is farthest from the center of the panel. The second tier includes two outer portions on either side of the center portion. The second tier is set back from the first tier and is closest to the center of the panel. This stepped configuration between the center portion and the outer portions allows coupling blocks to join two side-by-side panels when panels are stacked on top of each other to form a wall.

[0007] In another embodiment of the modular panel, the bottom means for cooperating with pegs are arranged in a single tier. In this case, panels are joined side-by-side using offset block construction.

[0008] According to an embodiment of the present invention, a panel is constructed of a molded base, a top peg component, and a bottom peg-receiving component. The molded base has indentations around the perimeter of its upper corners. These upper indentations receive flaps provisioned on the inside bottom of the top peg component, to secure the top peg component to the molded base. The top of the molded base also includes bosses that receive ribs provisioned on the underside of the top peg component. The molded base also has indentations around the perimeter of its lower corners. These lower indentations receive flaps provisioned on the inside top of the bottom peg-receiving component. Preferably, the molded base, the top peg component, and the bottom peg-receiving component are pre-assembled as a modular panel before a user works with the building block play system. In other words, once assembled, the components of the modular panel are not intended to be disassembled, although such disassembly could be possible with sufficient force. The higher strength of attachment provided by the flaps and indentations contrasts with traditional pegs and peg-receiving components, which can be removably attached to each other, for convenient assembly and disassembly by a user.

[0009] According to an embodiment of the present invention, the molded base of the panel is blow molded plastic and the peg component and peg-receiving component are injection molded plastic. Using blow molded plastic for the base enables the construction of a large piece that is relatively lightweight, but still of adequate structural strength. Using the flaps and indentations, the peg component and the peg-

receiving component snap onto the base to create a light, versatile building unit that is compatible with current commercially available building blocks.

[0010] In an alternative embodiment of the present invention, a panel includes a top finished component instead of a top peg component. Instead of providing pegs, this top finished component provides, for example, the finished top of a wall or another structural feature (*e.g.*, a roof cap, a handle, or a support for a roof span). In this alternative embodiment, the panel would be intended for the top course of a wall.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] Figures 1A and 1B are schematic diagrams of exemplary modular panels, according to embodiments of the present invention.

[0012] Figure 2A is a schematic diagram of an exemplary base of a panel, according to an embodiment of the present invention.

[0013] Figures 2B and 2C are schematic diagrams of cross-sectional views of an exemplary base of a panel, according to an embodiment of the present invention.

[0014] Figure 3 is a schematic diagram of an exemplary peg component of a panel, according to an embodiment of the present invention.

[0015] Figure 4 is a schematic diagram of a bottom view of an exemplary peg component, according to an embodiment of the present invention.

[0016] Figure 5A is a schematic diagram of a two-tiered peg-receiving component of a panel, according to an embodiment of the present invention.

[0017] Figure 5B is a schematic diagram of a top view of the peg-receiving component shown in Figure 5A.

[0018] Figure 6 is a schematic diagram of a bottom view of a two-tiered exemplary peg-receiving component, according to an embodiment of the present invention.

[0019] Figure 7 is a schematic diagram of an exemplary building block play system, according to an embodiment of the present invention.

[0020] Figure 8 is a schematic diagram of accessory components and configurations of exemplary building block play systems, according to an embodiment of the present invention.

[0021] Figure 9 is a schematic diagram of a top view of an exemplary support corner coupling block, according to an embodiment of the present invention.

[0022] Figure 10 is a schematic diagram of an isometric view of the exemplary support corner coupling block of Figure 9.

[0023] Figures 11 and 12 are schematic diagrams of side views of the exemplary support corner coupling block of Figure 9.

[0024] Figure 13A and 13B are schematic diagrams illustrating an exemplary method for assembling a building block play system, according to an embodiment of the present invention.

[0025] Figure 14 is a schematic diagram of another exemplary modular panel, according to an alternative embodiment of the present invention.

[0026] Figure 15A is a schematic diagram of a single-tiered peg-receiving component, according to an alternative embodiment of the present invention.

[0027] Figure 15B is a schematic diagram of a bottom view of an exemplary single-tiered peg-receiving component, according to an alternative embodiment of the present invention.

[0028] Figure 16 is a schematic diagram of an exemplary building block play system, according to an alternative embodiment of the present invention.

[0029] Figures 17 and 18 are schematic diagrams of exemplary panel support components, according to an alternative embodiment of the present invention.

[0030] Figure 19 is a schematic diagram of a variation of the exemplary building block play system of Figure 16, according to an alternative embodiment of the present invention.

[0031] Figure 20 is a schematic diagram of an exploded view of an exemplary modular panel that has an interior compartment, according to an alternative embodiment of the present invention.

[0032] Figure 21 is a schematic diagram of an assembled view of the exemplary modular panel of Figure 20 with the door open.

[0033] Figure 22 is a schematic diagram of an assemble view of the exemplary modular panel of Figure 20 with the door closed.

[0034] Figure 23A is a schematic diagram of an exemplary peg component having a plug that closes the blow molding aperture of the base, according to an embodiment of the present invention.

[0035] Figure 23B is a schematic diagram of an exemplary peg component having a cap that closes the blow molding aperture of the base, according to an embodiment of the present invention.

DETAILED DESCRIPTION OF THE INVENTION

[0036] Figure 1A illustrates a modular panel 100 according to an embodiment of the present invention. As shown, panel 100 includes a base 102, a peg component 104 attached over the top of base 102, and a peg-receiving component 106 attached over the bottom of base 102. The modular panel 100 is substantially a parallelepiped, as shown.

[0037] An important aspect of the present invention resides in the construction of the modular panel 100. In particular, base 102 is preferably blow molded so that it is lightweight and economical to manufacture. Two covers (*e.g.*, peg component 104 and peg-receiving component 106), which are preferably injection molded, attach to the blow molded base to form a panel that is compatible with existing construction blocks. Preferably, the two covers snap onto the base and one of the covers conceals the blow molding aperture.

[0038] Figure 2A illustrates base 102 according to an embodiment of the present invention. Base 102 has a front face 102a, a back face (not shown) opposite front

face 102a, two opposing side edge walls 102b, a top wall 102c, and a bottom wall (not shown) opposite top wall 102c. The covers (*e.g.*, peg component 104 and peg-receiving component 106 of Figure 1A) preferably snap onto base 102 over top wall 102c and the bottom wall. Base 102 also includes upper indentations 200 around the perimeter of its upper corners and lower indentations 202 around the perimeter of its lower corners. Top wall 102c of molded base 102 also includes strengthening bosses 204 and blow molding aperture 205. Optionally, as shown in Figure 2A, the front face 102a of panel 102 can include an ornamental embossing 206 as appropriate for the play structure to be built (*e.g.*, a stone castle pattern or a house shingle pattern). In a specific implementation, base 102 is made of blow molded plastic and is approximately 12-1/2 inches long, 2-1/2 inches wide, and 10 inches high.

[0039] Figures 2B and 2C illustrate an alternative embodiment of a base component of a modular panel of the present invention. As shown in these cross-sectional views, the base 250 includes upper indentations 200 around the perimeter of its upper corners and lower indentations 202 around the perimeter of its lower corners. The top of the molded base also includes bosses 204 and blow molding aperture 205. For further structural rigidity, as shown best in Figure 2C, base 250 includes flanges 252 proximate the perimeter of the face of base 250, near the top and bottom walls of base 250. These flanges 252 resist bending and deflection of base 250 at locations where the peg component 104 and peg-receiving component 106 attach to the base 250.

[0040] Figure 3 illustrates peg component 104 according to an embodiment of the present invention. As shown, peg component 104 includes projecting pegs 300 arranged in two rows with ten pegs each. In a specific implementation, peg component 104 is made of injected molded plastic and is approximately 12-1/2 inches long, 2-1/2 inches wide, and 1-3/4 inches high, with pegs 300 approximately 1 inch in diameter and spaced 1-1/4 inches apart from center to center. Peg component 104 also includes flaps 302 on the inside of its bottom edges, preferably on all four edges. Figure 4 illustrates flaps 302 from a view of the underside of peg component 104. These flaps 302 are flexible members that cooperate with the upper indentations 200 of base 102 (or alternatively base 250) to attach peg component 104 to base 102. In a preferred embodiment, flaps 302 snap into place within upper indentations 200. To further facilitate this attachment, as shown in Figure 4, peg component 104 also includes ribs 400 on its underside, which cooperate with the bosses 204 of base 102.

[0041] Figure 5A illustrates peg-receiving component 106 according to an embodiment of the present invention. As shown, peg-receiving component 106 includes a cavity 500 at its top and flaps 502 provisioned on the inside of its top edges, preferably on all four edges. Figure 5B shows a top view of cavity 500 and flaps 502 of peg-receiving component 106. Flaps 502 are flexible members that cooperate with lower indentations 202 of base 102 to secure peg-receiving component 106 to base 102. In a preferred embodiment, flaps 502 snap into place within lower indentations 202.

[0042] As shown in Figure 5A, peg-receiving component 106 also includes a two-tiered bottom, including a center portion 504 and two outer portions 506. These portions 504 and 506 include means for cooperating with projecting pegs. Figure 6 illustrates a bottom view of peg-receiving component 106 showing one embodiment of means 600 for cooperating with pegs. In this example, means 600 are cavities adapted to receive pegs. The means 600 include flexible members 602 that deform slightly to receive a peg and hold the peg in place by an interference fit. As another example, means for cooperating with pegs could be pegs sized to fit in between the projecting pegs 300 of peg component 104.

[0043] As shown in Figure 5A, peg-receiving component 106 has a two-tiered configuration in which center portion 504 extends farthest from the center of the panel, with the two outer portions 506 set back from center portion 504. This stepped configuration between center portion 504 and outer portions 506 allows a coupling block (*e.g.*, a four peg by four peg building block) to join two side-by-side panels when panels 100 are stacked on top of each other to make a wall.

[0044] In a specific implementation, peg-receiving component 106 is made of injected molded plastic and is approximately 12-1/2 inches long, 2-1/2 inches wide, 1-1/4 inches high at outer portions 506, and 2 inches high at center portion 504, with the means 600 approximately 1-1/4 inches square.

[0045] Figure 1B illustrates a modular panel 150 according to an alternative embodiment of the present invention. Like panel 100 of Figure 1A, panel 150

includes pegs 152 on its top and means 154 for cooperating with pegs on its bottom. Panel 152 also includes a stepped configuration at its bottom for cooperating with filler blocks and coupling blocks. The configuration of pegs 152 and means 154 of panel 150, however, is different from peg component 104 and peg-receiving component 106, respectively, of panel 100. Specifically, pegs 152 are hollow cylinders (instead of the beveled, solid posts shown in Figures 1A and 3) that are shorter than the pegs 300 of panel 100. For purposes of the present invention, however, the alternative embodiments of panels 100 and 150 function similarly within the context of the building block system, as described below.

[0046] Figure 7 illustrates an exemplary building block play system 700 that uses modular panels (*e.g.*, panel 100 or 150 described above), according to an embodiment of the present invention. As shown, multiple panels are stacked on top of each other by mating a peg component of a lower panel with a peg-receiving component of an upper panel. If the panels are simply stacked, without panels to their sides, then filler blocks 702 are disposed between a peg component of a lower panel and an outer portion of a peg-receiving component of an upper panel. To cooperate with the specific panels 100 and 150 described above in Figures 1-6, filler block 702 could have, for example, pegs and peg-receiving means in an array of two by two.

[0047] If, however, in addition to stacking panels, panels are joined side-by-side, then coupling blocks 704 are disposed between a peg component of a lower panel and an outer portion of a peg-receiving component of an upper panel 100. A coupling block

704 extends over the side of a first panel to join the peg component of a second panel positioned to the side of the first panel. As shown in Figure 7, a coupling block 704 can join panels in straight lines or at right angles. To cooperate with the specific panels 100 and 150 described above in Figures 1-6, coupling block 704 could have, for example, pegs and peg-receiving means in an array of two by three or two by four.

[0048] In a further embodiment of the present invention, building block play system 700 includes support components that support and stabilize the panels that rest on the floor. Figure 7 illustrates three exemplary support components: a support filler block 706, a support corner coupling block 708, and a support straight coupling block 710. Each of these support components includes a center peg portion with lateral flanges on each side of the center peg portion. As shown best in the support filler block 706 of Figure 8, the center peg portion 800 mates with an outer portion of a peg-receiving component of a panel. The lateral flanges 802 support and stabilize the panel. The support corner coupling block 708 and the support straight coupling block 710 are constructed in a similar manner. Optionally, instead of two lateral flanges, these support components could only have one lateral flange (*e.g.*, only on the outside corner of the support corner coupling block 708).

[0049] Figures 9-12 illustrate in more detail a support corner coupling block 708, according to an embodiment of the present invention. As shown, support corner coupling block 708 includes a peg portion 800, which is two pegs wide and arranged at a 90 degree angle to form a 90 degree corner of the play structure. A lateral flange

802 is disposed on the outside corner of the peg portion 800 to provide stability for a panel attached to the pegs. Optionally, although not shown, a lateral flange could be disposed on the inside corner of peg portion 800.

[0050] In addition to supporting and stabilizing the panels resting on the floor, support corner coupling block 708 and support straight coupling block 710 join panels side by side. The pegs of the center peg portions of blocks 708 and 710 cooperate with the outer portions of the peg-receiving components of two adjacent panels. Support corner coupling block 708 joins panels at a right angle, while support straight coupling block 710 joins panels in a straight line.

[0051] In a further embodiment, a support filler block 706 is adapted to receive a threshold component 707 as shown in Figure 7. This threshold component 707 sets the panels at a distance apart that is appropriate for a passageway (*e.g.*, doorway).

[0052] According to an alternative embodiment of the present invention, Figure 7 shows an opening 712 through a panel 713. Opening 712 could represent, for example, a door or window.

[0053] As further embodiments of the present invention, Figure 7 also shows accessory components of system 700, which cooperate with the pegs of a panel. One accessory is a lintel component 714 that includes means for cooperating with the pegs of two different panels, to create a passageway 716 between two panels or two stacks of panels. In an embodiment, the length of lintel component 714 is larger than the length of threshold component 707 (*e.g.*, the lintel component 714 is long enough to

engage at least one peg on each of the opposing panels). In another embodiment, lintel component 714 includes fabric panels 715 that hang from lintel component 714 and simulate, for example, doors or curtains in passageway 716.

[0054] Other accessories include a roof component 718 and flag components 720 that have means for cooperating with pegs, and which complete the play structure with pleasant aesthetic features.

[0055] Figures 13A and 13B illustrate an exemplary method for assembling a building block play system according to an embodiment of the present invention. As shown in Figure 13A, a user first stands a bottom layer (or course) of panels 1300 on the floor using the support components 1302. The user can also install a threshold component 1304 to set two adjacent panels apart at a distance suitable for a passageway. The user then stacks additional panels 1306 on top of the bottom layer to create a desired play structure, as shown in Figure 13B. The user inserts coupling blocks and filler blocks as described above to create the walls and corners of the structure.

[0056] Figures 14-19 illustrate an alternative embodiment of the building block system of present invention, using an alternative modular panel different from panels 100 and 150 of Figures 1A and 1B, respectively. This alternative modular panel eliminates the need for the filler blocks and coupling blocks described above. As shown in Figure 14, the modular panel 1400 of this embodiment is still substantially a parallelepiped and includes a molded base 1402, a peg component 1404 attached over

the top of base 1402, and a peg-receiving component 1406 attached over the bottom of base 1402. The shape of peg-receiving component 1406, however, is different in this embodiment. Specifically, instead of a two-tiered design (as with panels 100 and 150), peg-receiving component 1406 of panel 1400 is arranged in a single tier of peg receivers.

[0057] In the embodiment of Figure 14, base 1402 and peg component 1404 are constructed and joined in the same manner described above with reference to Figures 1A-4. The configuration of the pegs and means for cooperating with the pegs could be, for example, like that of Figure 1A or Figure 1B. Indeed, Figures 14-19 illustrate both possibilities.

[0058] Figures 15A and 15B show the single tier design of peg-receiving component 1406 that is unique to this embodiment. As shown, peg-receiving component 1406 includes a single tier or level of peg receivers 1504 in an array of, for example, two by ten. Peg-receiving component 1406 also includes a cavity 1500 at its top and flaps 1502 provisioned on the inside of its top edges, preferably on all four edges. Flaps 1502 are flexible members that cooperate with lower indentations on base 1402 to secure peg-receiving component 1406 to base 1402. In a preferred embodiment, flaps 1502 snap into place within these lower indentations.

[0059] As shown in Figure 15B, peg receivers 1504 are cavities adapted to receive pegs. Peg receivers 1504 include flexible members 1506 that deform slightly to receive a peg and hold the peg in place by an interference fit. Peg-receiving

component 1406 could, of course, use other means for cooperating with pegs, such as pegs sized to fit in between the projecting pegs of peg component 1404.

[0060] In a specific implementation, peg-receiving component 1406 is made of injected molded plastic and is approximately 12-1/2 inches long, 2-1/2 inches wide, and 1-1/4 inches high, with the peg receivers 1504 approximately 1-1/4 inches square.

[0061] Figure 16 illustrates an exemplary building block play system 1600 that uses the modular panel 1400 of Figure 14, according to an embodiment of the present invention. As shown, multiple panels are stacked on top of each other and linked side-by-side using two differently sized panels and an offset construction technique. In this embodiment, one panel type 1602 includes top pegs and bottom peg receivers in an array of two by eight. A second larger panel type 1604 includes top pegs and bottom peg receivers in an array of two by ten. The panel types 1602 and 1604 are alternately stacked to provide an extension 1606 of the larger panel type 1604. This extension 1606 provides exposed pegs and peg receivers that can join with additional panels to start the offset construction. As shown, an extension 1606 can be used to continue a wall in a straight line or to create a corner. Although, in this example, extension 1606 is an overhang, it could be on the bottom (*i.e.*, a larger panel on the bottom with a smaller panel on top of it).

[0062] As one of ordinary skill in the art would appreciate, once the extension is provided, the offset construction can proceed in any number of configurations using various combinations of panel types 1602 and 1604. For example, starting with an

extension of the larger panel type 1604, small panel types 1602 can be added in offset or staggered courses to continue to build a wall. In addition, a larger panel type 1602 can be added to the end of a course as shown to create a straight end wall 1608. Of course, other panel configurations are possible. In addition, further configurations can be achieved by introducing differently sized panel types. As another option, offset construction could be achieved using panels of a single size.

[0063] In a further aspect of this embodiment of the present invention, building block play system 1600 includes support components 1610A and 1610B that support and stabilize the panels that rest on the floor. As shown in Figures 17 and 18, support components 1610A and 1610B include a center peg portion 1700 with flanges 1702 on each side of the center peg portion 1700. Center peg portion 1700 mates with the peg-receiving component 1406 of a panel 1400. In this example, center peg portion 1700 of support component 1610A includes pegs in an array of two by ten to accommodate the width of the large panel type 1604 (which is equal to the width of a the small panel type 1602 plus the extension 1606). The center peg portion 1700 of support component 1610B includes pegs in an array of two by sixteen to accommodate the width of two small panel types 1602 (which is equal to the width of a large panel type 1604 plus a small panel type 1602 minus the extension 1606). Of course, these support components could be sized differently, with varying numbers of pegs, to accommodate other panel sizes and structure configurations.

[0064] The flanges 1702 of support components 1610A and 1610B support and stabilize the panels 1400 resting on the floor. Optionally, instead of two flanges, these support components 1610A and 1610B could only have one flange (*e.g.*, only on the inside or outside of the play structure).

[0065] In a further embodiment of the present invention, instead of or in addition to the support components 1610A and 1610B, the support corner coupling block 708 of Figures 9-12 could be used to support and stabilize panels 1602 and 1604 of Figure 16. As described above in reference to Figures 9-12, support corner coupling block 708 can be used to form corners of a play structure. If support corner coupling block 708 is used in conjunction with support components 1610A and 1610B, then their peg portions 800 and 1700 would of course be sized appropriately to accommodate the corresponding panels 1602 and 1604.

[0066] As further embodiments of the present invention, Figure 16 also shows accessory components of system 1600, which cooperate with the pegs of a panel. One accessory is a lintel component 1614 that includes means for cooperating with the pegs of two different panels, to create a passageway 1616 between two panels or two stacks of panels. Other accessories include roof components 1618 and flag components 1620 that have means for cooperating with pegs, and which complete the play structure with pleasant aesthetic features. Figure 19 illustrates further variations of these accessory components (*e.g.*, showing an alternate roof component 1700), as

well as different ornamental features (*e.g.*, panel window openings 1703 and panel shingle embossing 1705) for the individual components of the play structure.

[0067] According to an alternative embodiment of the present invention, Figure 16 shows a passageway or opening 1612 through a panel 1604. Opening 1612 could be, for example, a door or window. Optionally, opening 1612 could be simulated with an adhesive label applied to the panel 1604. In another embodiment, a chalkboard or dry eraser board 1615 is affixed to the face of a panel so that a user can write messages or draw pictures.

[0068] Figure 20 illustrates another alternative embodiment of the present invention in which a modular panel 2000 has an interior compartment 2001. As shown in this exploded view, the construction of modular panel 2000 is similar in most respects to those described above, except for the compartment 2001. Panel 2000 includes a base 2002, a peg component 2004 attached over the top of base 2002, and a peg-receiving component 2006 attached over the bottom of base 2002. The modular panel 2000 is substantially a parallelepiped, as shown.

[0069] Base 2002 defines the compartment 2001. Preferably, a door 2009 covers compartment 2001. Also preferably, door 2009 is an injection molded part. Compartment 2001 includes hinge indentations 2010 that cooperate with hinge posts 2012 on door 2009, to allow door 2009 to swing, and thereby open and close compartment 2001. The hinge posts 2012 on door 2009 snap into the hinge indentations 2010. Door 2009 also includes catch posts 2014 that cooperate with

catch indentations 2016 to hold door 2009 in place over compartment 2001. Door 2009 also includes a handle cutout 2018 to allow a user to conveniently pull door 2009 such that catch posts 2014 disengage from catch indentations 2016 and door 2009 pivots open around the axis of the hinge posts 2012 and hinge indentations 2010. Figures 21 and 22 show door 2009 in the open and closed positions, respectively, with all of the components of modular panel 2000 assembled together.

[0070] In a further aspect of the present invention, Figures 20 and 21 illustrate reinforcing bosses 2020 formed in base 2002. These bosses 2020 add strength and rigidity to base 2002, especially in a direction perpendicular to the face of the opening of compartment 2001.

[0071] An important aspect of the present invention resides in the construction of the modular panels 100, 150, and 2000. In particular, the bases 102 and 2002 are preferably blow molded so that they are lightweight and economical to manufacture. Two covers (*e.g.*, peg components 104, 152, or 2004 and peg-receiving components 106, 154, or 2006), which are preferably injection molded, attach to the blow molded base to form a panel that is compatible with existing construction blocks. Preferably, the two covers snap onto the base and one of the covers conceals the blow molding aperture to improve the panel's appearance.

[0072] In further embodiment, a cover, such as peg component 104 of Figure 1, not only conceals the blow molding aperture of the base, but also closes the blow molding aperture of the base. To serve this additional function, the underside of the

cover has, for example, a plug or cap that mates with the blow molding aperture of the base, to close or seal the base. As an example, Figure 23A illustrates a peg component 2304 having a plug 2305 that fits within and closes the blow molding aperture 2303 of the base 2302. As another example, Figure 23B illustrates a peg component 2304 having a cap 2307 that fits over and closes the blow molding aperture 2303 of base 2302. Closing or sealing the base according to this embodiment of the present invention eliminates the need for a separate cap or plug for the blow molding aperture and for the additional manufacturing step needed to install such a cap or plug.

[0073] In an alternative embodiment of the present invention, a panel includes a blow molded base, a peg-receiving bottom, and a top finished component (instead of a top peg component). Instead of providing pegs, this top finished component is smooth or formed into some other structural feature. In this manner, the panel of this alternative embodiment can provide, for example, the finished top of a wall or another structural feature (*e.g.*, a roof cap, a handle, or a support for a roof span). In this alternative embodiment, the panel is intended for the top course of a wall.

[0074] According to another alternative embodiment of the present invention, all three components of a panel (*i.e.*, the base, the peg-receiving component, and the top finished or top peg component) are constructed as one unitary piece. Preferably, in this alternate embodiment, the panel would be fully injection molded using an

appropriate resin or combination of resins (*e.g.*, EVA foam) to provide the panel with adequate strength and rigidity. The unitary panel could also be blow molded.

[0075] As one of ordinary skill in the art of standard toy construction blocks would appreciate, although no reference was made to particular distances, heights, lengths, widths or thicknesses, other than those specifically mentioned as forming part of a preferred embodiment of the invention, these quantities are to be chosen so as to enable the invention to be used with any other standard large-scale toy construction block.

[0076] The foregoing disclosure of the preferred embodiments of the present invention has been presented for purposes of illustration and description. It is not intended to be exhaustive or to limit the invention to the precise forms disclosed. Many variations and modifications of the embodiments described herein will be apparent to one of ordinary skill in the art in light of the above disclosure. The scope of the invention is to be defined only by the claims appended hereto, and by their equivalents.

[0077] Further, in describing representative embodiments of the present invention, the specification may have presented the method and/or process of the present invention as a particular sequence of steps. However, to the extent that the method or process does not rely on the particular order of steps set forth herein, the method or process should not be limited to the particular sequence of steps described. As one of ordinary skill in the art would appreciate, other sequences of steps may be possible.

Therefore, the particular order of the steps set forth in the specification should not be construed as limitations on the claims. In addition, the claims directed to the method and/or process of the present invention should not be limited to the performance of their steps in the order written, and one skilled in the art can readily appreciate that the sequences may be varied and still remain within the spirit and scope of the present invention.